

Chapter 8

Evaluation of Interprofessional Education

Introduction

Everyone who is dedicated to interprofessional education (IPE) would think it has to be effective. However, the effectiveness of IPE is not an easy phenomenon to be measured. The current emphasis on evidence-based practice puts educators and researchers of IPE under tremendous pressure to prove IPE outcomes are effective.

Building up such evidence is very complicated and difficult because so many interrelated factors and situations are included in the entire process of IPE¹⁾. Nevertheless, we had to begin with very fundamental questions to be answered. They were:

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|-------------------|--|
| What to evaluate? | <ul style="list-style-type: none">• Students' change in their knowledge, skills, and attitudes?• Educators' change in their knowledge, skills and attitudes?• Organizational change in the management and financial support? |
| When to evaluate? | <ul style="list-style-type: none">• At the beginning of the course?• In the middle of the course?• At the end of the course?• How about the short-term and long-term effects? |
| How to evaluate? | <ul style="list-style-type: none">• Quantitatively?• Qualitatively? |

With these questions in our mind, we will go on to descriptions of what we had intended to do, what we have done, and what we should do (or shouldn't do) in the future.

1. What we had intended to do

A thorough review had not been done when we had started: rather, we thought while we walk. Of course, we noticed there had been some evaluation criteria mainly developed in the European countries. However, applying these criteria directly to our program seemed to lead to a cultural bias.

On the other hand, there were few evaluation criteria used in Japanese universities because most IPE programs in their curricula were in the developmental

stage. Accordingly, their evaluation criteria were either “borrowed” from Western countries or still struggling to establish validity and reliability²⁾.

Therefore, we have to develop our own criteria that will fit the sessions which will use “modules” within the university facilities. You can read about “modules” in chapter 6 in detail.

2. What we have done

1) Evaluation of the students

We had planned the evaluation of the students focusing on the changes in their knowledge, skills and attitudes. All the attendees of the seminar were seniors who had finished their fieldwork outside the university already, although the length of their fieldwork varied according to the curriculum of each department. Because the students committed to the seminar independently most of the time and seemed to act as adult learners, we had decided not to use traditional types of evaluation, i.e., examinations or reports.

In the first year (2009), we had learned a lot from the six-fold typology developed by CAIPE (Table 8-1).¹⁾ You may notice that pre-qualified level of IPE will

Table 8-1. Typolpgy for outcomes of interprofessional education

1	Reaction	Learners' view on the learning experience and its interprofessional nature
2a	Modification of attitudes/perceptions	Changes in reciprocal attitudes or perceptions between participant groups. Changes in perception or attitude towards the value and/or use of team approaches to caring for a specific client group
2b	Acquisition of knowledge/skills	Including knowledge and skills linked to interprofessional collaboration
3	Behavioral change	Identifies individuals' transfer of interprofessional learning to their practice setting and changed professional practice
4a	Change in organizational practice	Wider changes in the organization and delivery of care
4b	Benefits to patients/clients, families and communities	Improvements in health or well-being of patients/clients, families and communities

not cover all of this table. Rather, it ranges from type 1 to, hopefully, 3.

After discussion among CIPES 21 members, we had organized a prototype of a questionnaire made from 13 items. Two free answer questions originally made for the evaluation of the Integrated Learning Seminar were added to it. The purpose of these two items was to solicit students’ reflections on the course, as well as having feedback to the course contents, management of the course, and the

effectiveness of the facilitators. In the second year (2010), we had added a minor change to the questionnaire for the students to avoid a redundancy in the items. Table 8-2 shows the final version of the questionnaire and the students’ response to Integrated Learning Seminar in 2010 and 2011. The two comparisons between the responses of the students before and after the seminar revealed that all the responses changed significantly in the positive direction, except for a couple of questions. The reason why the responses of the students to questions 4-3 and 4-6 remain unchanged may be that the statements of these two questions were so obvious that the students could have noticed the intent of the researchers. The statements of these two items, therefore, should to be modified to more sophisticated ones.

Table 8-2. The questionnaire for the students and their response in 2010 and 2011

Number	Questions	2010			2011		
		N	Z	P	N	Z	P
1	To what extent do you think you can describe your professional work to the students from other discipline?	126	-6.888	<.001	162	-7.35	<.001
2	How exactly do you understand the theme you chose?	131	-8.246	<.001	163	-9.783	<.001
3	How often do you think you will collaborate with other professionals in your future job?	135	-2.056	=0.04	164	-3.480	.001
Please rate the statements below by marking the number indicating; 1=strongly disagree to 5=strongly agree.							
4-1	The quality of care will increase by supporting the client with the team.	135	-4.440	<.001	165	-3.249	.001
4-2	I will be able to respond to the needs of the clients more appropriately by learning in this course.	135	-3.339	.001	164	-4.860	<.001
4-3	I can offer the quality care without understanding the jobs of other health-related professions.	135	-0.674	.500*	164	.650	.516*
4-4	It is beneficial to the clients if we work collaboratively.	134	-4.327	<.001	164	-4.230	<.001
4-5	The problem solving ability will be increased by knowing the other professions’ job.	135	-4.289	<.001	162	-3.305	.001
4-6	Teamwork readiness will be mastered by enhancing my own professional ability, if I don’t learn about collaboration.	132	-0.710	.477*	162	.334	.738*
4-7	My communication skill with other professions will be increased by attending this course.	135	-1.555	.120*	162	-4.270	<.001
4-8	The inter-personal relationships after my graduation will be enhanced by learning teamwork skills in this course.	135	-2.856	.004	161	-4.384	<.001
4-9	Mutual respect and reliance to other professions will be learned in this course.	135	-4.459	<.001	161	-4.878	<.001
4-10	A caring plan which would not be come up by a single profession will be made.	127	-1.746	.081*	152	-4.982	<.001

N: number of pairs *: Not significant
Z: Z value P: Probability level

In 2011, we compared the response of the students who had belonged to the

group that studied with “modules” to that of the students who belonged to the group that studied with cases other than “modules”. The result is shown in Table 8-3. The content of each item was omitted because it was just the same as shown in Table 8-2. The comparison revealed that the responses of both groups were almost the same before and after the Integrated Learning Seminar except for question 3, which suggests that the use of “modules” had no effect on the students’ responses in terms of their knowledge and attitudes about IPE.

To analyze the students’ opinions of the Integrated Learning Seminar qualitatively, we have used SPSS Text Analytics for Surveys (TAFS) to extract meanings from their descriptions about IPE. TAFS analyzes sentences of students derived from the questionnaire by extracting key words and making categories from them. As Figure 8-1 shows, there appeared several meanings from the students’ statements after the learning in the Integrated Learning Seminar.

Table 8-3. The difference between the groups: Modules VS Non-modules, 2011

Qs	Before		After	
	Zb	Pb	Za	Pa
1	-0.163	0.871	-0.558	0.577
2	-0.935	0.350	-0.259	0.795
3	-2.662	0.008*	-2.262	0.024*
4-1	-0.799	0.424	-0.062	0.951
4-2	-0.641	0.522	-0.024	0.981
4-3	-1.128	0.259	-0.059	0.953
4-4	-0.290	0.772	-1.250	0.211
4-5	-0.337	0.736	-0.577	0.564
4-6	-1.412	0.158	-0.662	0.508
4-7	-0.068	0.946	-0.119	0.906
4-8	-0.432	0.666	-1.117	0.264
4-9	-0.535	0.593	-0.433	0.665
4-10	-0.696	0.486	-1.199	0.230

Zb: Z value before the course
Za: Z value after the course
Pb: Probability before the course
Pa: Probability after the course
*: Statistically significant
Non module group > Module group

At the knowledge level, the students noticed the other professions’ characteristics and specialty areas, as well as their own ones through the learning process. At the skill level, they became aware of the importance of communication when they were working with other professions and their clients. At the attitudes level, they respected the need to listen to others. Although there had been a few comments on conflicts between the group members, they were supposed to face situations requiring problem solving while they worked together.

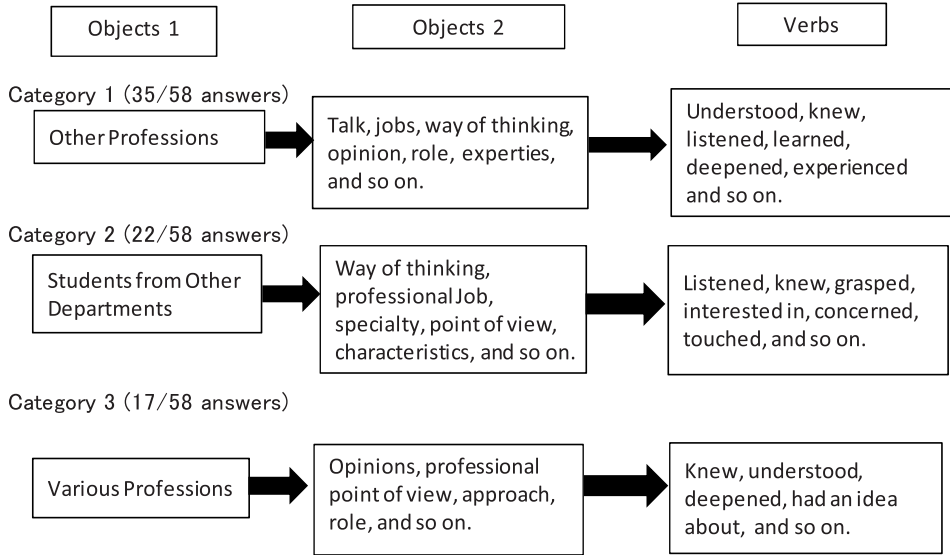


Figure 8-1 Categories derived from the student’s responses to Integrated Learning Seminar, 2010 & 2011

2) Evaluation of the Teachers

Table 8.4 Teachers’ response to Questions 4-1 to 4-10

Qs	Z	P
4-1	-1.897	0.058
4-2	-2.357	0.018*
4-3	-1.507	0.132
4-4	-0.577	0.564
4-5	-0.577	0.564
4-6	-0.923	0.356
4-7	-1.608	0.108
4-8	-1.269	0.204
4-9	-2.295	0.022*
4-10	-2.138	0.033*

Z: Z value
P: Probability
*: Statitically significant

Another questionnaire to measure the changes of the teachers was also developed in 2010. The contents of this questionnaire were basically the same as those for the students, except for questions asking for the teachers’ roles as facilitators. The result of this questionnaire, shown in Table 8-4, was somewhat different from that of the students, which may reflect the teachers’ experience as facilitators.

We put three free-answer questions at the end of the questionnaire to get feedback to the program and its management. TAFS was used again to analyze the statements from the teachers who worked as facilitators. Some showed that students’ collaboration had been much better than expected. Insufficient preparation for the course materials was depicted, as well as the unsatisfactory arrangement between facilitators. An imbalance in the numbers of the students in each group was also indicated.

3. What we should do in the future

Although we have done a survey on the short term effect of the Integrated Learning Seminar, the long term effect must be investigated. We had actually done a trial-based follow up study, but the number of student responses was too small to make any meaningful inferences. Therefore, a larger scale follow up study including two groups of students matched with their GPA should be performed in the near future. At the same time, the effect of IPE on the interprofessional work (IPW) of graduates should be examined.

We have to work also on an examination of the validity and reliability of our evaluation criteria. Especially, the concurrent validity with the evaluation tools already used in the Western countries, like the Interprofessional Attitudes Questionnaire (IAQ)³⁾ or the Readiness for Interprofessional Learning Scale (RIPLS)⁴⁾, should be checked as soon as possible.

Finally, the effect of IPE on educational organizations should be investigated. Considering the fact that cost effectiveness of IPE still presents serious challenges for the advocates of IPE, we have to prepare for a strategy to prove that IPE is cost-effective.

References

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